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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/978,276	10/17/2001	Mike Reeves	53921/126	4433
27155	7590	10/03/2005	EXAMINER	
MCCARTHY TETRAULT LLP BOX 48, SUITE 4700, 66WELLINGTON STREET WEST TORONTO, ON M5K 1E6 CANADA			MURPHY, RHONDA L	
			ART UNIT	PAPER NUMBER
			2667	

DATE MAILED: 10/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

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<b>Office Action Summary</b>	Application No. 09/978,276	Applicant(s) REEVES ET AL.	
	Examiner Rhonda Murphy	Art Unit 2667	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 October 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>6/28/05</u> . | 6) <input type="checkbox"/> Other: ____.  |

## **DETAILED ACTION**

### ***Priority***

1. Acknowledgment is made of applicant's claim for foreign priority based on an application filed in Canada on 12/8/00. It is noted, however, that applicant has not filed a certified copy of the foreign application as required by 35 U.S.C. 119(b).

### ***Specification***

1. The disclosure is objected to because it contains an embedded hyperlink and/or other form of browser-executable code on line 13 of page 11. Applicant is required to delete the embedded hyperlink and/or other form of browser-executable code. See MPEP § 608.01.

### ***Claim Objections***

2. Claims 2, 8 and 9 are objected to because of the following minor informalities:  
In claim 2, a colon is missing after the term "comprises".  
In claim 8, line 5, the terms "to based" is unclear and shall be rephrased.  
In claim 9, line 4, the terms "to based" is unclear and shall be rephrased.

Appropriate correction is required.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1 - 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ohba et al. (US 2002/0176370) in view of Weil et al. (US 2002/0093954).

**Regarding claim 1**, Ohba teaches a method of configuring a communications path in a communications network from a start node to an end node through a plurality of intermediate nodes (Figs. 4 and 5), said method comprising: establishing a partial path for said communications path from said start node to a terminating node in said intermediate nodes (page 10, paragraph 146; R1 – R5); and at said terminating node, if a communications link to a next-hop node does not exist in said plurality of intermediate nodes, then establishing said terminating node as an interim egress node for said communications path (Fig. 5, page 10, paragraph 146-147; R5 is the interim node).

Ohba fails to explicitly disclose notifying said start node of mapping parameters for said partial communications path.

However, Weil discloses notifying said start node of mapping parameters for said partial communications path (page 6, paragraph 92; wherein all nodes are updated with the newly formed paths).

In view of this, it would have been obvious to one skilled in the art to modify Ohba's method by notifying the start node of the mapping parameters, for the purpose

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of enabling the routers to maintain an accurate record of the paths formed in the network.

**Regarding claim 2**, Ohba teaches requesting establishment of a secondary communications path from said terminating node to said end node from nodes downstream from said terminating node (see Fig. 5, page 10, paragraphs 147-150).

**Regarding claim 3**, Ohba teaches requesting establishment of a secondary communications path performed on a node-by-node basis (page 10, paragraphs 147-150; nodes R1 – R8).

**Regarding claim 4**, Ohba teaches notifying routers of the label allocation message (page 10, paragraphs 150; R3 receiving set of information from R8).

However, Ohba fails to explicitly disclose notifying said start node of parameters associated with said secondary communications path after said secondary communications path is established.

Weil discloses notifying said start node of parameters associated with secondary communication path (page 6, paragraph 92; wherein all nodes are updated with the newly formed paths).

In view of this, it would have been obvious to one skilled in the art to modify Ohba's method by notifying the start node of the parameters, for the purpose of enabling the routers to maintain an accurate record of the paths formed in the network.

**Regarding claim 5**, Ohba teaches parameters comprising a hop count associated with said secondary communications path (page 10, paragraph 147; hop count =1).

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**Regarding claim 6**, Ohba teaches a method of establishing a signaled label switched path (SLSP) in a multi-protocol label switching (MPLS) communications network wherein each router thereof has at least one label distribution protocol (LDP) peer router (page 5, paragraphs 81 and 83; each node carrying out label allocation protocol), said method comprising: executing a packet routing task on each router in accordance with a packet routing protocol so as to enable each router to forward a data packet to a next-hop router based on a network address carried by the data packet (page 8, paragraph 126); storing, on each router, a list of SLSPs which egress at the router (page 8, paragraph 129; stores output side label), each said SLSP being associated with a forward equivalency class (FEC) based on a network destination (label switched paths are known in the art for being associated with a FEC; page 5, paragraph 74 and page 9, paragraph 134); in the event a given router identifies a new LDP peer router (page 10, paragraph 146; new node devices R6, R7, R8), traversing the corresponding list of egress SLSPs to identify the FEC corresponding to each listed SLSP (page 10, paragraph 149-150), and requesting the next-hop router from said routing task for each said FEC (page 10, paragraph 147; R6 allocates a new label).

Ohba fails to explicitly disclose extending the corresponding listed SLSP to said new LDP peer router. in the event said routing task identifies the next hop router for a given one of said FECs to be said new LDP peer router.

However, Weil teaches extending the corresponding listed SLSP to said new LDP peer router, in the event said routing task identifies the next hop router for a given

one of said FECs to be said new LDP peer router (page 6, paragraph 92; wherein all nodes are updated with the newly formed paths).

In view of this, it would have been obvious to one skilled in the art to modify Ohba's method by extending the list of SLSPs to the new router, for the purpose of enabling the new router to maintain an accurate record of the label switched paths formed in the network.

**Regarding claim 7**, Ohba teaches the same limitations described above in the rejection of claim 6. Furthermore, Ohba teaches signaling the establishment of said SLSP across said network from an ingress router to an egress router (page 5, paragraph 83)

**Regarding claim 8**, Ohba teaches the same limitations described above in the rejection of claim 6. Ohba further teaches a router for use in a communications network (Fig.6), said router comprising: one or more input ports for receiving packets from said network and one or more output ports for transmitting packets to said network (see Fig. 6; routers are known in the art for having multiple input and output ports); packet routing logic for enabling the router to identify a next-hop router for forwarding a data packet based on a network address carried by said packet (page 8, paragraph 126); switching logic for enabling packets to be switched between said input ports and said output ports based on a label carried by each packet (page 5, paragraph 83); signaling logic for enabling a signaling link to be established with a signaling peer router (page 4, paragraph 64), said signaling link being used to establish a bearer channel link for a signaled label switched path (SLSP) (it is known in the art that bearer channels are used for signaling purposes).

**Regarding claim 9**, Ohba teaches the same limitations described above in the rejection of claim 8. Ohba further teaches packet routing logic being operative to change the identities of the next hop-routers from time to time for various network destinations (page 7, paragraph 113).

**Regarding claim 10**, Ohba teaches the same limitations described above in the rejection of claim 9. Ohba further teaches executing a label distribution task on each router in accordance with a label distribution protocol (LDP) so as to enable each router to signal path establishment messages with an LDP peer router over a signaling link (page 4, paragraph 64).

Ohba further teaches storing a list of SLSPs, but fails to explicitly teach storing, on each router, (i) a first list of LDP signaling links to peer routers.

However, Weil teaches storing a list of LDP signaling links to peer routers (page 5, paragraph 84) and in the event the packet routing task associated with a given router identifies a new next-hop router for a given network destination, determining from the first list that a particular transit SLSP is associated with the given network destination (page 5, paragraph 84).

Furthermore, it would have been obvious to signal a path establishment message to progress the particular transit SLSP to the new next-hop router, provided that the second list indicates that an LDP signaling link exists between the given router and the new next-hop router, since the existence of the LDP signaling link will allow for a next-hop to occur once the signal to setup a path is sent.



In view of this, it would have been obvious to one skilled in the art to modify Ohba's method by including a list of LDP signaling links to indicate potential next-hop routes.

**Regarding claim 11**, Ohba teaches the same limitations described above in the rejection of claims 8 and 10. Ohba also teaches signaling requests to establish paths. It would have been obvious to one skilled in the art to include a signaling a request to establish a bearer channel link with the new next-hop node in order to progress the particular transit SLSP thereto, since using bearer channels for signaling purposes are known in the art.

**Regarding claim 12**, Ohba teaches the same limitations described above in the rejection of claims 8 and 11. Ohba further teaches the router communicating packet routing protocol messages and signaling protocol messages with a second router over a common physical interface (it is known in the art that routers communicate over common physical interfaces); the packet routing logic indicates a first communication failure with the second router after a first predetermined time period has elapsed without a predetermined event having occurred (page 8, paragraphs 121-122); the signaling logic indicates a second communication failure with the second router after a second predetermined time period has elapsed without the predetermined event having occurred (page 8, paragraph 122).

Ohba fails to explicitly disclose the first time period is shorter than the second time period.

However, it would have been obvious to one skilled in the art to reattempt connection after various time intervals, so as to efficiently use bandwidth resources.

**Regarding claim 13**, Ohba teaches communication failures and time elapsing between reconnection attempts. It would have been obvious, in the event of a second communication failure, for the MPLS routing logic to signal the release of SLSPs associated with a particular signaling link using the common physical interface, since connection has repeatedly failed and releasing the SLSP will conserve resources. Furthermore, it would have been obvious to select relative durations of the first and second time periods so as to enable the packet routing logic to select a new next-hop router for data packets formerly forwarded to the second router prior to the release of one or more SLSPs associated with the particular signaling link, for the purpose of providing sufficient time to establish a new path without completely losing the entire connection.

**Regarding claim 14**, Ohba teaches the method described above in the rejection of claim 13. Furthermore, it would have been obvious to one skilled in the art for the predetermined event to be the reception of a protocol message from the second router, since reception of a protocol message would have enabled a communication link.

### ***Conclusion***

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

\*Ashwood-Smith et al. (US 2005/0008020) discloses ATM transport over multi-protocol label switching

\*Klevans (US 6,885,677) discloses multiprotocol label switching routers.

\*Boodaghians (US 2005/0180422) discloses techniques for introducing in-band network management packets in multi-protocol label switching networks.

\*Goyal et al. (US 6,466,985) discloses a method and apparatus for providing quality of service using the Internet protocol.

\*Mauger et al. (US 6,882,643) discloses supporting multiple services in label switched networks.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rhonda Murphy whose telephone number is (571) 272-3185. The examiner can normally be reached on Monday - Friday 8:00 - 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chi Pham can be reached on (571) 272-3179. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

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For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Rhonda Murphy  
Examiner  
Art Unit 2667

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